

S2 Appendix. Classification of house type and development of the modified wealth index

Country	Survey type	Roof		Walls		Floor		Wealth index variables
		Rudimentary	Non-rudimentary	Rudimentary	Non-rudimentary	Rudimentary	Non-rudimentary	
Angola 2011	MIS	Palm; bamboo; mat; wood planks; tarpaulin; plastic; other	Zinc; metal; asbestos; ceramic tiles; concrete; cement	Straw; mats; cardboard; plastic; sticks and mud; clay blocks; cane; palm; trunks; used wood; wood planks; other	Concrete; stone blocks; bricks	Clay; sand; dung; tablets; wood planks; other	Parquet; polished wood; ceramic; mosaic; tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) car; (11) mobile telephone; (12) watch
Benin 2011-12	DHS	No roof; thatch; palm leaf; sod; rustic mat; palm; bamboo; wood planks; cardboard; wood; roofing shingles; other	Metal; calamine or cement fibre; ceramic tiles; cement	No walls; cane; palm; trunks; dirt; bamboo with mud; stone with mud; uncovered adobe; plywood; cardboard; reused wood; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; wood planks; palm; bamboo; other	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) mobile telephone, (11) watch, (12) bank account.
Burkina Faso 2010	DHS	No roof; thatch; palm leaf; sod; rustic mat; palm; bamboo; wood planks; wood; roofing shingles; other	Metal; zinc with cement fibre; tiles; slate; cement	No walls; cane; palm; trunk; dirt; bamboo with mud; stone with mud; uncovered adobe; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; wood planks; palm; bamboo; other	Parquet or polished wood; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) bicycle, (8) scooter, (9) mobile telephone, (10) watch, (11) animal-drawn cart, (12) bank account.
Burkina Faso 2014	MIS	Thatch; palm leaf; wood; other	Metal	Cane; palm; trunks; dirt; bamboo with mud; stone with mud; uncovered adobe; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; other	Ceramic tiles; cement	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) bicycle, (8) scooter, (9) mobile telephone, (10) watch, (11) animal-drawn cart, (12) bank account
Burundi 2012	MIS	No roof; thatch; palm leaf; sod; palm; bamboo; wood; roofing shingles; other	Metal; ceramic tiles; cement	No walls; bamboo; palm; trunk; dirt; bamboo with mud; stone with mud; mud bricks; reused wood; wood planks or shingles	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; other	Ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) bicycle, (8) mobile telephone, (9) watch, (10) bank account.
Cameroon 2011	DHS	No roof; thatch; palm leaf; sod; straw; rustic mat; palm; bamboo; wood planks; cardboard; wood; roofing shingles; other	Metal; calamine; cement fibre; ceramic tiles; cement	No walls; cane; palm; trunks; dirt; bamboo with mud; stone with mud; uncovered adobe; plywood; cardboard; reused wood; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; wood planks; palm; bamboo; other	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) car, (11) mobile telephone, (12) watch, (13) bank account.

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		Rudimentary	Non-rudimentary	Rudimentary	Non-rudimentary	Rudimentary	Non-rudimentary	
Côte d'Ivoire 2011-12	DHS	No roof; thatch; palm leaf; sod; rustic mat; palm; bamboo; wood planks; wood; cardboard; roofing shingles; other	Metal; ceramic tiles; cement	No walls; cane; palm; trunk; dirt; bamboo with mud; stone with mud; uncovered adobe; plywood; cardboard; reused wood; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; wood planks; palm; bamboo; other	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) mobile telephone, (11) watch, (12) bank account.
Democratic Republic of the Congo 2013-14	DHS	No roof; thatch; palm leaf; earth; rustic mat; palm; bamboo; wood planks; wood; shingles; other	Metal; zinc or cement fibre; tiles; slate; cement	No walls; cane; palm; trunks; dirt; bamboo with mud; stone with mud; uncovered adobe; bamboo; reused wood; wood; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; wood planks; palm; bamboo; other	Vinyl; asphalt strips; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) bicycle, (8) mobile telephone, (9) watch
Gambia 2013	DHS	No roof; thatch; palm leaf; palm; bamboo; wood planks; cardboard; wood; roofing shingles; other	Metal; calamine or cement fibre; ceramic tiles; cement	No walls; cane; palm; trunks; mud; mud bricks; bamboo with mud; stone with mud; plywood; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks	Earth; sand; wood planks; other	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement; carpet; plastic carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) car, (11) mobile telephone, (12) watch, (13) animal-drawn cart
Ghana 2014	DHS	No roof; thatch; palm leaf; rustic mat; palm; bamboo; wood planks; cardboard; wood; roofing shingles; other	Metal; calamine; cement fibre; ceramic tiles; cement; asbestos; slate	No walls; cane; palm; trunks; dirt; bamboo with mud; stone with mud; uncovered adobe; plywood; cardboard; reused wood; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; wood planks; other	Parquet; polished wood; vinyl; asphalt strips; ceramic; marble; porcelain; cement; carpet; linoleum	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) car, (11) mobile telephone, (12) watch, (13) bank account.
Guinea 2012	DHS	No roof; thatch; palm leaf; rustic mat; wood; other	Metal; zinc or cement fibre; tiles; slate; cement	No walls; cane; palm; trunks; dirt; bamboo; wood or stone with mud; other	Cement; stone with lime or cement; cement blocks	Earth; sand; dung; palm; bamboo; other	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) car, (11) mobile telephone, (12) bank account.

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Country	Survey type	Roof		Walls		Floor		Wealth index variables
		Rudimentary	Non-rudimentary	Rudimentary	Non-rudimentary	Rudimentary	Non-rudimentary	
Kenya 2015	MIS	No roof; thatch; grass; makuti; dung; mud; sod; other	Iron sheets; tin cans; asbestos sheet; concrete; tiles	No walls; cane; palm; trunks; dung; mud; sod; bamboo with mud; stone with mud; uncovered adobe; plywood; cardboard; reused wood; wood planks or shingles; other	Iron sheets; cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; wood planks; other	Parquet or polished wood; vinyl; asphalt; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) electricity; ownership of a: (4) radio, (5) television, (6) refrigerator; (7) bicycle, (8) scooter, (9) car, (10) mobile telephone, (11) watch, (12) bank account
Liberia 2009	MIS	Thatch; palm leaf; palm; bamboo; mats; tarpaulin; plastic; other	Zinc; metal; ceramic tiles; concrete; cement; asbestos	Mud and sticks; cane; palm; trunks; straw; thatch mats; mud bricks; cardboard; plastic; wood planks or shingles; other	Cement or stone blocks; bricks; zinc	Earth; sand; mud; wood planks; other	Parquet; polished wood; floor mat; linoleum; ceramic tiles; concrete; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; ownership of a: (4) radio, (5) television, (6) mobile telephone; (7) watch
Liberia 2011	MIS	Thatch; palm leaf; palm; bamboo; wood planks; tarpaulin; plastic; wood	Metal; ceramic tiles; concrete; cement; asbestos sheets	Mud and sticks; cane; palm; trunk; straw or thatched mats; mud bricks; plywood; cardboard; plastic; reused wood; wood planks or shingles; other	Cement; stone blocks; bricks; zinc	Earth; sand; mud; wood planks; other	Parquet; polished wood; floor mat; linoleum; ceramic tiles; concrete; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; ownership of a: (4) radio, (5) television, (6) scooter, (7) mobile telephone, (8) watch, (9) bank account.
Madagascar 2011	MIS	No roof; thatch; palm leaf; sod; rustic mat; palm with bamboo; wood planks; cardboard; wood; roofing shingles; other	Sheet metal; zinc or cement fibre; ceramic tiles; cement	No walls; cane; palm; trunks; dirt; bamboo with mud; stone with mud; plywood; cardboard; reused wood; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks; sheet metal; tiles; ceramic	Mud; earth; dung; wood planks; palm; bamboo; mat; other	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) bicycle, (8) mobile telephone, (9) watch, (10) animal-drawn cart (11) bank account.
Madagascar 2013	MIS	No roof; thatch; palm; leaf; sod; rustic mat; palm; bamboo; wood planks; cardboard; wood; roofing shingles; other	Sheet metal; zinc or cement fibre; ceramic tiles; cement	No walls; cane; palm; trunks; dirt; bamboo with mud; stone with mud; plywood; cardboard; reused wood; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks	Mud; earth; dung; wood planks; palm; bamboo; mat; other	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) bicycle, (8) mobile telephone, watch, (9) animal-drawn cart, (10) bank account.

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Country	Survey type	Roof		Walls		Floor		Wealth index variables
		Rudimentary	Non-rudimentary	Rudimentary	Non-rudimentary	Rudimentary	Non-rudimentary	
Malawi 2012	MIS	No roof; thatch; palm leaf; palm; bamboo; grass; wood planks; cardboard; wood; roofing shingles; other	Iron sheets; calamine or cement fibre; ceramic tiles; cement	No walls; cane; palm; trunks; dirt; bamboo or tree trunks with mud; stone with mud; plywood; cardboard; reused wood; other	Cement; stone with lime or cement; burnt bricks; unburnt bricks; cement blocks	Earth; sand; dung; broken bricks	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) mobile telephone, (10) bank account.
Malawi 2014	MIS	No roof; thatch; palm leaf; rustic mat; palm; bamboo; grass; wood planks; wood; roofing shingles; other	Iron sheets; calamine or cement fibre; ceramic tiles; cement	No walls; cane; palm; trunks; dirt; bamboo with mud; stone with mud; plywood; cardboard; wood planks or shingles; other	Cement; stone with lime or cement; burnt bricks; unburnt bricks; cement blocks	Earth; sand; dung; wood planks; broken bricks; other	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) mobile telephone, (10) bank account.
Mali 2012-13	DHS	No roof; thatch; palm leaf; sod; rustic mat; palm; bamboo; wood planks; cardboard; wood; roofing shingles; other	Metal; calamine or cement fibre; ceramic tiles; cement	No walls; cane; palm; trunk; dirt; bamboo with mud; stone with mud; uncovered adobe; plywood; cardboard; reused wood; wood planks or shingle; other	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; wood planks; palm; bamboo; other	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) mobile telephone, (11) watch, (12) animal-drawn cart, (13) bank account.
Mozambique 2011	DHS	No roof; grass; thatch; palm; other	Metal; calamine or cement fibre; ceramic tiles; concrete slab; cement	No walls; cane; palm; trunk; tin/cardboard/paper; sticks; shells (casca); wood or metal planks; adobe; other	Bricks; cement blocks	Earth; wood planks; adobe; other	Parquet; polished wood; tiles; bricks; cement	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) car, (11) mobile telephone, (12) watch, (13) bank account.
Nigeria 2010	MIS	Thatch; palm leaf; palm; bamboo; mats; wood planks; tarpaulin; plastic; wood	Zinc; metal; ceramic tiles; concrete; cement; asbestos	Mud and sticks; cane; palm; trunk; straw or thatched mats; mud bricks, plywood; reused wood; cardboard; plastic; wood planks or shingles; other	Cement or stone blocks; bricks	Earth; sand; wood planks	Parquet; polished wood; floor mat; linoleum; ceramic tiles; concrete; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) car, (11) mobile telephone

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		Rudimentary	Non-rudimentary	Rudimentary	Non-rudimentary	Rudimentary	Non-rudimentary	
Rwanda 2010	DHS	No roof; thatch; palm leaf; sod; rustic mat; plastic; palm; bamboo; wood; roofing shingles; other	Metal; calamine or cement fibre; ceramic tiles; cement	No walls; cane; palm; trunk; dirt; bamboo with mud; stone with mud; uncovered adobe; plywood; reused wood; trunks with mud; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; wood planks; other	Ceramic tiles; cement	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) bicycle, (8) mobile telephone, (9) watch, (10) bank account.
Senegal 2008-09	MIS	No roof; thatch; palm leaf; sod; rustic mat; palm; bamboo; wood planks; cardboard; wood; roofing shingles; other	Metal; calamine; cement fibre; ceramic tiles; cement	No walls; cane; palm; trunks; dirt; bamboo with mud; stone with mud; uncovered adobe; plywood; reused wood; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; wood planks; palm; bamboo; other	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) landline telephone, (11) mobile telephone, (12) animal-drawn cart
Senegal 2010-11	DHS	No roof; thatch; palm leaf; sod; rustic mat; palm; bamboo; wood planks; cardboard; wood; roofing shingles; other	Metal; calamine or cement fibre; ceramic tiles; cement	No walls; cane; palm; trunks; dirt; bamboo with mud; stone with mud; uncovered adobe; plywood; cardboard; reused wood; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; wood planks; palm; bamboo; other	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) landline telephone, (11) mobile telephone, (12) animal-drawn cart; (13) bank account.
Senegal 2012-13	DHS	No roof; thatch; palm leaf; sod; palm; bamboo; wood planks; cardboard; wood; roofing shingles; other	Metal; calamine or cement fibre; ceramic tiles; cement	No walls; cane; palm; trunks; dirt; bamboo with mud; stone with mud; reused wood; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; wood planks; palm; bamboo; other	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) landline telephone, (11) mobile telephone, (12) animal-drawn cart, (13) bank account.
Senegal 2013-14	DHS	No roof; thatch or palm leaf; sod; rustic mat; palm or bamboo; wood planks; wood; roofing shingles; other	Metal; calamine or cement fibre; ceramic tiles; cement	No walls; cane; palm; trunk; dirt; bamboo with mud; stone with mud; reused wood; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; wood planks; palm; bamboo; other	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) car; (11) mobile telephone, (12) animal-drawn cart, (13) bank account.

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		Rudimentary	Non-rudimentary	Rudimentary	Non-rudimentary	Rudimentary	Non-rudimentary	
Togo 2013-14	DHS	No roof; thatch; palm leaf; sod; palm; bamboo; wood planks; cardboard; straw; wood; roofing shingles; other	Metal; calamine or cement fibre; ceramic tiles; cement	No walls; cane; palm; trunk; dirt; bamboo with mud; stone with mud; uncovered adobe; plywood; cardboard; reused wood; wood planks or shingles; other	Cement; stone with lime or cement; bricks; cement blocks; covered adobe	Earth; sand; dung; palm; bamboo; other	Parquet; polished wood; vinyl; asphalt strips; ceramic tiles; cement; carpet	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator, (8) bicycle, (9) scooter, (10) mobile telephone, (11) watch, (12) bank account.
Uganda 2009	MIS	Thatched; mud; wood; planks; other	Iron sheets; asbestos; tiles; tin; cement	Thatched; straw; mud and poles; unburnt bricks; unburnt bricks with plaster; burnt bricks with mud; timber; other	Cement blocks; stone; burnt bricks with cement	Earth; sand; dung; other	Mosaic; tiles; bricks; cement; stones	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) bicycle, (8) scooter, (9) mobile telephone, (10) watch; (11) bank account
Uganda 2014-15	MIS	Thatched; mud; palm; wood planks; wood; roofing shingles; other	Tin; iron sheets; cement fibre; tiles; cement; asbestos	No walls; thatched; straw; dirt; mud and poles; stone with mud; reused wood; unburnt bricks (including with plaster or mud); wood planks or shingles; other	Cement; stone with lime or cement; burnt bricks with cement; cement blocks	Earth; sand; dung; wood planks; other	Parquet; polished wood; mosaic; tile; cement; stones; bricks	(1) source of drinking water; (2) toilet facility; (3) cooking fuel; (4) electricity; ownership of a: (5) radio, (6) television, (7) refrigerator; (8) bicycle, (9) scooter, (10) mobile telephone, (11) watch, (12) bank account

Improved sanitation facilities: flush toilet, piped sewer system, septic tank, flush/pour flush to pit latrine, ventilated improved pit latrine, pit latrine with slab or composting toilet [1]. Improved sources of drinking water: piped water into dwelling, piped water to yard/plot, a public tap or standpipe, tubewell or borehole, protected dug well, protected spring or rainwater [1]. Modern energy sources: liquefied petroleum gas, biogas, ethanol gel, plant oils, dimethyl ether, electricity; intermediate energy sources: charcoal, coal, kerosene; traditional energy sources: dung, agricultural residues, straw and wood [2].

References

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2. IEA. Energy for cooking in developing countries. Paris: International Energy Agency; 2006.